Issues Associated with Partnering of

Navy SPS Sites

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Contact Information:
P. Christopher Bock
Coopers & Lybrand L.L.P.
(703) 633-4778

As the implementation of the SPS Program continues towards Full Operational Capability (FOC), it is important that the Navy continue to review its practices to ensure that it operates at optimal levels of efficiency. One area in which there is significant potential for increased efficiency is in the utilization of a partnering strategy amongst its sites. For the purposes of this issue paper, partnering is defined as the sharing of resources (servers, systems administrators, help desks, etc.) between two or more sites. There are, however, several issues that will need to be overcome in order to utilize partnering effectively. These are discussed in further detail below.

Claimant Partnering

Claimant partnering is defined as only partnering the sites within a given claimant. This strategy, currently being pursued by NAVAIR, allows for greater control of the shared physical hardware and personnel by the claimant. All of the sites attaching themselves to the partnering arrangement fall under the purview of that particular claimant, and it is reasonable to expect that current practices at the member sites may be similar, thereby allowing the partnership to operate more efficiently. Experience from the NAVFAC community demonstrates, however, that there can be substantial differences in business practices within a claimant. For example, the work-flow for a Public Works Center activity can be quite different from the work flow at an Engineering Field Division activity. These differences can make the standardization of business practices, necessary for efficient and effective partnering, difficult to achieve. Additionally, the Navy claimants have sites spread across the United States, and this geographic dispersion makes effective partnering more difficult and costly. Additional costs would include leasing of cross-country dedicated communication lines and the additional costs required to staff a help desk line capable of servicing sites in multiple time zones. Illustrations of two potential structures for claimant partnering (full claimant and flagship claimant) are provided in Attachment 1 and Attachment 2.

Geographic Partnering

Geographic partnering is defined as the partnering of sites within a given geographic location regardless of the claimant under which those sites fall. This option addresses many of the concerns raised under Claimant Partnering including geographic dispersion costs. It is also logical to expect that geographic partnering allows for more direct communication amongst the partner sites. A closer geographic proximity will allow for more face-to-face communication and coordination in the operation of the partnership. As with claimant partnering, there will be differences in business practices, but in the case of geographic partnering, it is more likely that these differences will be substantial and will be significant barriers to implementation. Also, a loss of control by the claimants will be a difficult issue to address. Many claimants will be reluctant to allow the system administration personnel from another claimant to have access to their procurement data. Also, reporting is a significant potential issue. If the database administrator for the partnership is responsible for generating reports for the partner sites, and if each claimant mandates that its sites use a unique reporting format, then the complexity associated with report generation will increase significantly. If this occurs, there will be little, if any, savings associated by partnering the reporting function. If, however, standard reporting formats can be established for all of the partner sites, significant savings can be realized. An illustration of the potential structure for geographic partnering is provided in Attachment 3. A relative cost comparison for the two methods of claimant partnering and geographic partnering is provided in Attachment 4.

Remote Access Options

In addition to the options associated with claimant and geographic partnering, there are options to consider regarding how to remotely connect the outlying sites to the central server. Attachment 5 addresses several of these options.

Attachment 1

Full Claimant Partnering

In this hypothetical example, one claimant, the Naval Sea Systems Command (NAVSEA), could partner all of its sites nationwide. This could be accomplished utilizing a single, centralized server for all of the sites. This server could be hosted at one of the larger sites (NAVSEA Headquarters in Arlington, Virginia; Naval Surface Warfare Center, Carderock Division, West Bethesda, Maryland; or Naval Surface Warfare Center, Crane, Indiana). This central site could also be used to host a centralized help desk to field questions and problems from all of the NAVSEA Sites. This would allow the smaller sites to leverage from the experiences of the larger sites. It will also result in savings in terms of hardware and personnel costs at the smaller sites. Under this plan, however the staff of the central site would need to be well versed in the operations of all of the different types of contracting operations within NAVSEA. This includes the operations of Headquarters, the Surface and Undersea Warfare Centers (NUWC), and the Supervisor of Shipbuilding (SUPSHIP) activities. The map below provides a depiction of the current NAVSEA sites by size (in terms of number of Category I SPS users).

Sites with 100 or more users

Sites with between 11 and 99 users

Sites with 10 or fewer users
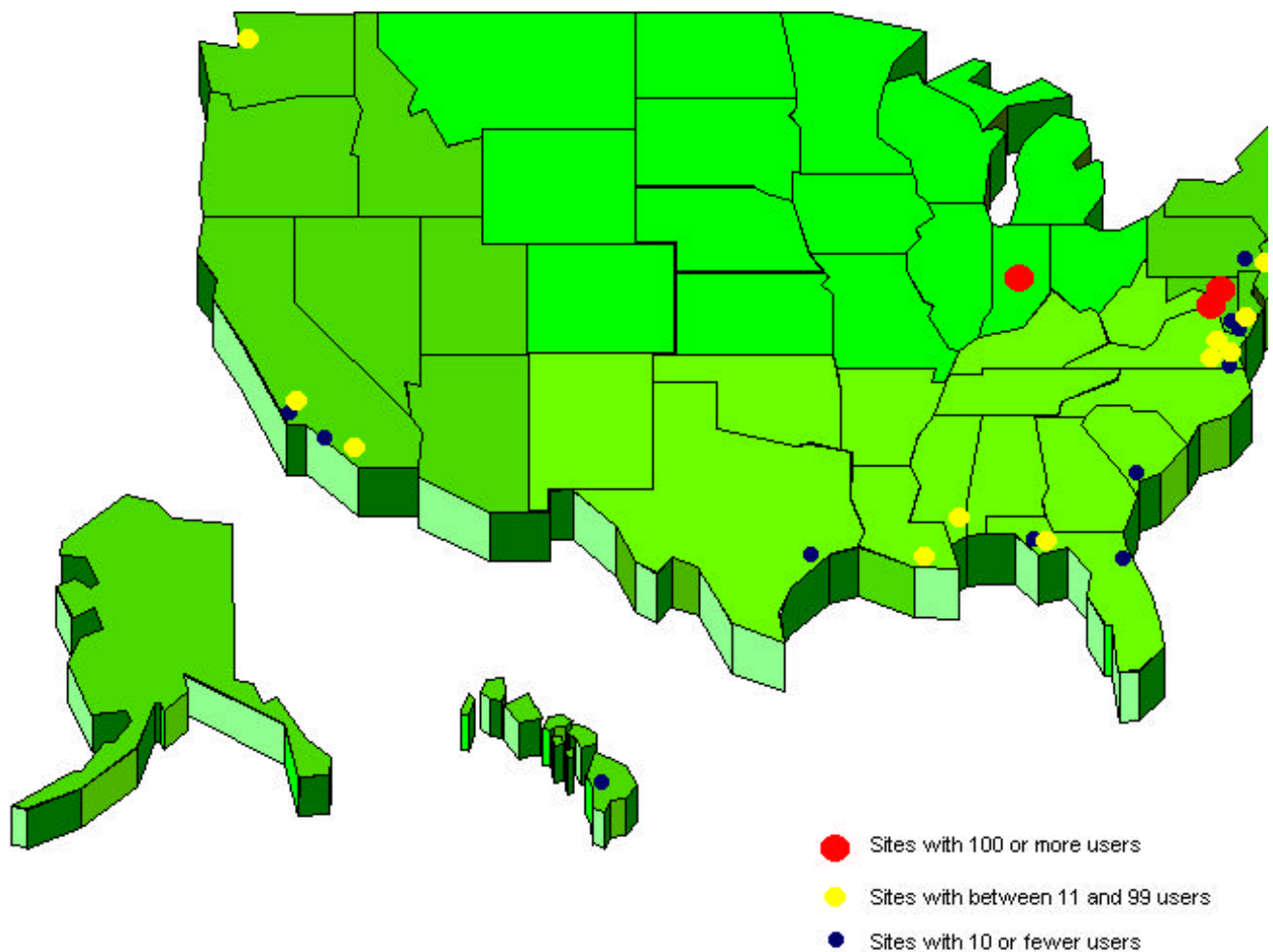
Attachment 2
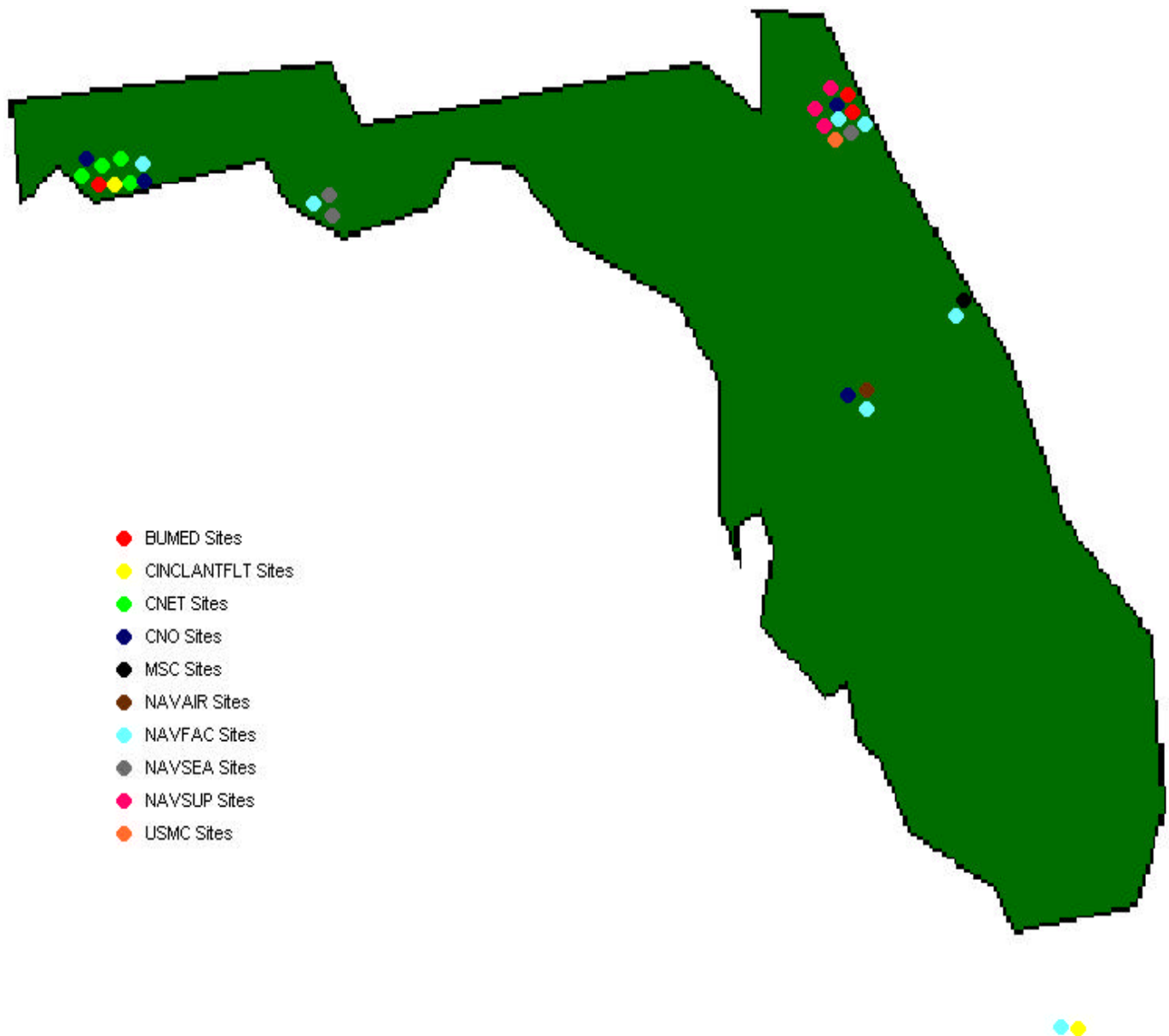**Flagship Claimant Partnering**

This hypothetical example, again utilizing the current NAVSEA sites, involves partnering the sites based on the segments that currently exist in NAVSEA. For example, an NSWC site would be selected to host the centralized server and help desk, and the other NSWC sites would then tie to that site. The same methodology could be utilized for partnering of NUWC and SUPSHIP sites. This partnering strategy will allow the sites to still enjoy the cost savings associated with decreased personnel and, and the central site would only need to be proficient in the operations of the other sites within its segment. The map below provides a depiction of the current NSWC, NUWC, and SUPSHIP sites.

● Naval Surface Warfare Centers

● Naval Undersea Warfare Centers

● SUPSHIP Activities
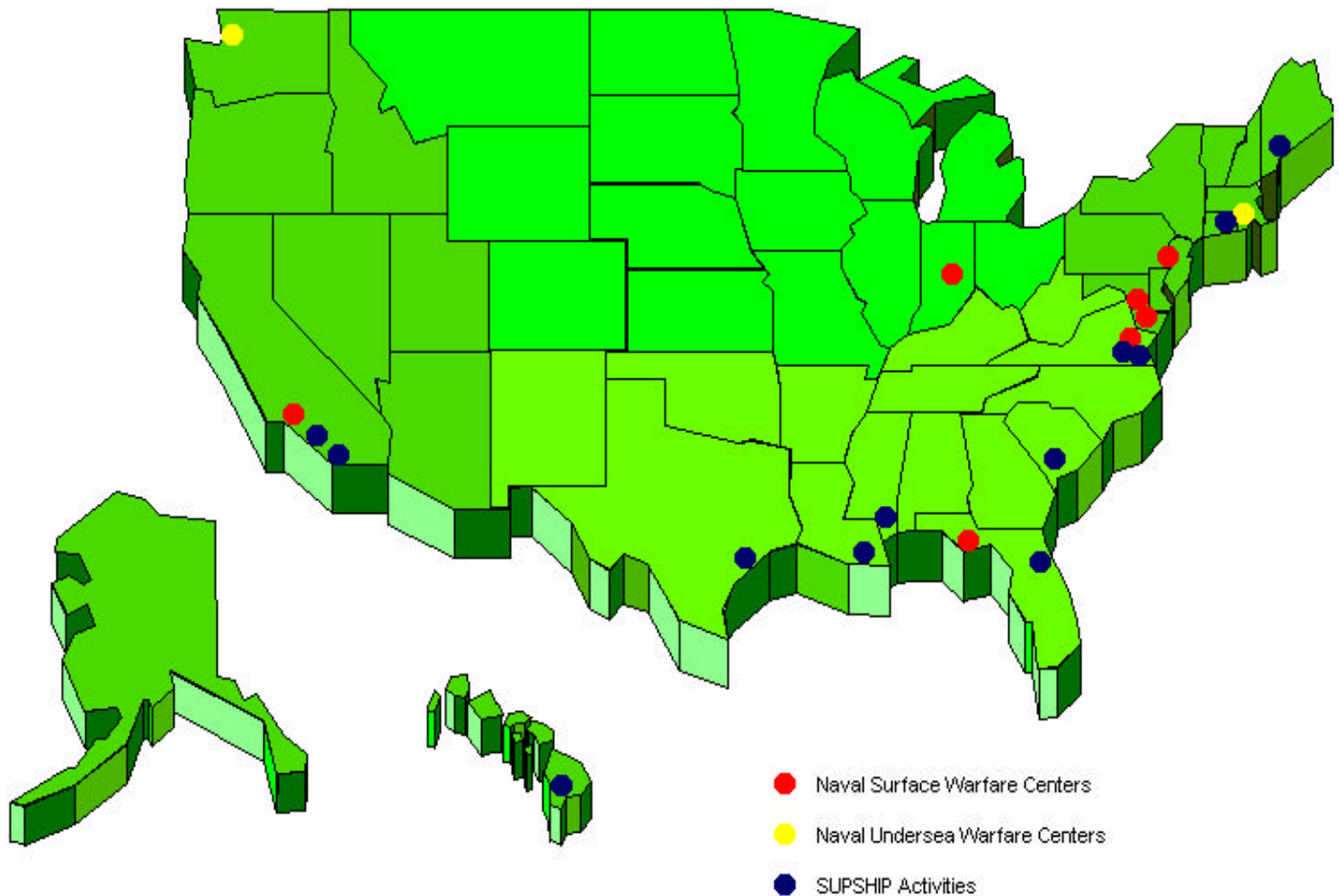
Attachment 3
Geographic Partnering

In this type of partnering, all of the sites in a given geographic location would partner, with one of the larger sites in the region acting as the central host for the server and help desk. The map below depicts a representation of the potential for geographic partnering example in the state of Florida. In this example, partnering could be established on a state-wide level. This would allow some of the smaller, more isolated sites, like NAS Key West, to enjoy the benefits of reduced equipment costs associated with partnering. Partnering could also be established in smaller geographic regions based on the number of sites in those regions (like the Pensacola, Orlando, and Jacksonville area). Under this type of structure, the isolated sites could partner with the nearest cluster (Panama City could cluster with Pensacola, Key West and Cape Canaveral could partner with Orlando, etc.).

- ● BUMED Sites
- ● CINCLANTFLT Sites
- ● CNET Sites
- ● CNO Sites
- ● MSC Sites
- ● NAVAIR Sites
- ● NAVFAC Sites
- ● NAVSEA Sites
- ● NAVSUP Sites
- ● USMC Sites

Attachment 4
Relative Cost Comparison

Cost Element	Full Claimant	Flagship Claimant	Geographic	Assumptions
Servers	Low	Medium	Medium	Note A
Telecommunications	High	High	Low	Note B
Report Generation	Medium	Low	High	Note C
Functional Help Desk	Medium	Low	High	Note C
DBA Training	Medium	Low	High	Note C
Systems Administration	Medium	High	Low	Note D
DBA Support	Low	Medium	Medium	Note E
Archiving	Medium	High	Low	Note D
Data Migration	Medium	Low	High	Note F

Note A – Full claimant partnering could have as few as one server; flagship and geographic will potentially require several servers to support the same number of users

Note B – Because of the close proximity of the sites, the expected telecommunications costs will be less for geographic; due to dispersion, full claimant and flagship claimant partnering telecommunications costs are expected to be higher

Note C – Because of anticipated similarities in business processes, flagship claimant is expected to be the least expensive; highest costs are expected with geographic partnering (where one would expect the greatest diversity in business processes)

Note D – Lowest per user cost is expected with geographic partnering (assuming that geographic partnerships have the most users)

Note E – DBA support costs are directly correlated to the number servers (see Note A)

Note F – Data migration costs will be highest for geographic partnering as it is expected that this partnering method will contain the highest number of different legacy systems

Attachment 5

Remote Access Options

The Remote SPS Partnering Sites will not have access to the PD2 application on a local file server. Users at these sites will access the PD2 application through a remote access solution. Discussed below are several alternatives that can be deployed for remote access. Partnering sites can achieve access to PD2 using a dial connection or dedicated leased line with any of following remote access strategies.

Alternative Remote Access Strategies:

• **Network Service Provider (e.g., AT&T, AOL, Sprint) Solution**

> Network service providers can allow SPS sites to access PD2 using leased equipment and services. The telecommunication service provider is responsible for maintaining the telecommunication equipment (e.g., modems, routers). Using the telecommunication equipment, the service provider receives the incoming data traffic and routes it to the customers desired location.

Advantages of using a network service provider:
1. Available network management support expertise.
2. Reduces infrastructure requirements at individual sites.
3. Eliminates the burden of implementing WAN network infrastructure.
4. Provides scalable solution to meet changing needs.

Disadvantages of using a network service provider:
1. Reduces Navy control over its computing resources (e.g., security).

• **Defense Mega Center (DMC) Solution**

> The Defense Information Systems Agency (DISA), a Department of Defense major command, runs 16 mega computer centers throughout the United States. DISA is responsible for providing enough WAN capacity for SPS users to connect to a Mega center for several services. These Defense Mega Centers are responsible for the data processing support that is essential to the day to day operations of the Department of Defense and its five branches; the Army, Air Force, Navy, Marines and the Coast Guard.

> Remote dial-up users, afloat users and deployed users can use the DMC processing alternative. The DMC server will maintain all SPS data for these users in addition to providing the necessary processing support. Under this remote configuration, all interface functionality, data, software and hardware reside on the server at the Mega Center. The individual sites can choose whether to handle administrative, execution and data storage tasks locally, or utilize a remote site for application processing.

Advantages of DMC Services:
1. Reduces infrastructure requirements at individual sites.
2. Eliminates the burden of implementing WAN network infrastructure.
3. Leverages the existing DoD communication infrastructure.

Disadvantages of DMC Services:
1. Reduces Navy control over its computing resources.
2. System support is not under the direct control of Navy claimants.

• **Internal Remote Access (e.g., remote node, remote control) Solution**

An internal remote access solution consists of the Dept. of the Navy implementing their own communication infrastructure to support partnering sites. Two technical approaches are available to the Navy for providing remote access to PD2.

Remote Node Solution means that most of the PD2 processing is performed on the remote workstation. This architecture may require users with low-end workstation to upgrade to more powerful machines. Software running on the remote node server allows the remote workstation to connection to the network backbone in a manner that is transparent to the remote user. This provides the appearance that the user is locally connected, although at a considerably slower speed than a true LAN connection would provide.

Remote Control Solution (example products include Citrix Winframe and Microsoft Terminal Server) allows all PD2 processing to be performed on the server, rather than on remote workstations. The remote control server runs the PD2 application and the only software required on the remote workstation is the remote control client software. This software is responsible for controlling the display, keyboard, and mouse movements. The workstation at the partnering site will control a virtual user session on a remote server that has access to the PD2 application and associated data. This architecture allows users with low-end workstations (e.g., Intel x286, x386 machines) and small amounts of memory to effectively run the application. However, this solution requires large capital expenditures to provide computing capacity to support the virtual user session environment.

Advantages of Internal Remote Access Solution
1.   Provides Navy control over its computing resources (e.g., security).
2.   Support staff will be under the authority of the Navy claimants.

Disadvantages of Internal Remote Access Solution
1.   Requires unique staff skills to implement and maintain WAN infrastructure.
2.   Requires significant initial capital outlay to establish communication infrastructure.

The optimal remote access configuration for partnering SPS Sites should be determined on a case by case basis. The advantages and disadvantages of each alternative will have varying degrees of importance across the claimants and individual sites.